27
65
8
27
85
1
27
75 ← 90 240 dpi
3 good density

A&J MICRO DRIVE
A&J Micro Drive
1050 E. Duane Ave. Ste "I"
Sunnyvale, CA 94086
408-732-9292

A&J MICRO DRIVE

User's Manual
for the
A & J
PRINTER INTERFACE

A&J MICRO DRIVE
A&J PRINTER INTERFACE

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A&J Micro Drive warrants the A&J Printer Interface to be free from defects in material and workmanship for a period of 90 days from the date of purchase.

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A&J Micro Drive
1050 East Duane Avenue, Suite I, Sunnyvale, CA 94086 (408) 732-9292

RELOCATING THE PRINTER DRIVER SOFTWARE

As mentioned earlier, this driver software is not easily relocatable, but can be relocated by changing the address of the TABLE which is now at 62254 (low byte) and 62255 (high byte). If (with your printer code loaded) you type PRINT PEEK 62254 +256*PEEK 26255, you'll get the decimal address of TABLE. Now, if for example you wish to move the printer driver software down in memory by 10,000 bytes, subtract 10,000 from the address of TABLE AND ASSIGN THIS TO A VARIABLE, FOR EXAMPLE X. Next, write a for next loop to move all bytes down 10,000, you can enter this directly: LET A=61440-10000:LET B=61440: FOR I=1 TO 1300:LET D=PEEK B:POKE A, D:LET B=B+1:LET A=A+1:NEXT I. This will move the entire driver software down 10000 bytes. Next, type POKE (62254-10000),INT (X/256)*256: POKE (62255-10000),INT(X/256).

Now you must remember that all addresses referred to in this documentation will be at a location 10,000 less than what is referenced (ie. the RANDOMIZE USR routine, the Normal Copy, the Side by Side Print, and the Larger size screen copy etc.).

TO USE THE A&J DRIVER INTERFACE WITH TASWORD II

It will not be necessary to load either of the "printer" program or the "prcode"CODE to use your driver hardware with Tasword II. Simply load up Tasword and go to Basic in the usual manner provided for in Tasword. Then type directly:

```
POKE 57578,32:POKE 57579,12:POKE 57998,219:POKE 57999,65
POKE 58000,230:POKE 58001,4:POKE58002,32:POKE 58003,250
POKE 58004,241:POKE 58005,211:POKE 58006,66:POKE 58007,62
POKE 58008,4:POKE 58009,211:POKE 58010,65:POKE 58011,175
POKE 58012,211:POKE 58013,65:POKE 58014,201
```

Be sure to save this modified copy of your program for future use.

IMPORTANT: BEFORE MAKING A CASSETTE VERSION OF THE DRIVER SOFTWARE, LINE 10 OF THE PROGRAM MUST BE CHANGED TO READ:

```
20 LOAD "prcode"CODE
```

RESET BYTES

There is a maximum of 1 byte available for resetting the line feed to normal and turning off the unidirectional printing. This is set up in the same way as the graphic control bytes.

MAKING A CUSTOM PRINTER WAFER OR CASSETTE

When you have finished customizing the printer driver software to match your specific printer, you are given the opportunity to put your software either on cassette or wafer (at prompt). We do suggest that you use either a blank (erased) cassette, or a blank 20ft wafer. IMPORTANT: If you are going to put the printer driver software on wafer, the first thing that the program does is to format the wafer (ie SAVE "@1,+"). It will then put the BASIC portion (PPprinter") @1 and the "prcode"CODE @2. If this is not convenient for you, you can break into the program and change the lines (220 to end) to meet your needs. Notice that the Basic "printer" program has an auto-start line no. 10, and the "prcode"CODE is 61440,1300.

PUTTING YOUR DRIVER SOFTWARE ONTO YOUR OWN BASIC PROGRAMS

If you now have a Basic program (or develop one) that you wish to use the driver software with: First, load up your Basic program and break into it. Next, load up your customized "prcode"CODE -- do not load up the Basic "printer" program - only the code. And, last, if your program Auto-runs at a specific line, add the statement LOAD "" CODE (or if using a wafer LOAD "@prcode"CODE) to the beginning of the Auto-run line. Immediately after the loading of the printer code, you must insert RANDOMIZE USR 61443, this gets everything ready for the driver, and only takes micro-seconds. The instructions for using your A&J driver with Tasword II are on the next page.

MAKING ADDITIONAL COPIES OF THE DRIVER SOFTWARE

You can break into the printer program easily. One way is, after you have customized the printer driver software you are asked whether to save the customized version onto wafer or cassette, simply press 2 (for cassette) and without starting the cassette recorder, press enter, in about 5 seconds, you will be able to break into the program by pressing Caps/Shift & Break. Then type GO TO 210.

THE A&J PRINTER INTERFACE

In this package you will find all of the necessary items needed to make use of the printer port on the A&J Model 2000 Stringy Floppy Interface with centronics compatible printers.

KIT CONTENTS

Qty	Description
1	Printer Cable (approx. 4' long) Kit A & B
1	Instruction manual

CABLE INSTALLATION

The White connector on the cable goes onto the cartridge marked PRINTER PORT on the interface. The cable MUST TRAVEL AWAY FROM THE CASE - AWAY FROM YOU. The connector on the other end of the cable plugs into the centronics port of your printer.

LOADING THE SOFTWARE

You may now plug the Model 2000 Interface back into your computer and turn the power on. Place the wafer into your stringy floppy and type LOAD "@printer". This software is provided to you on micro wafer and you will be afforded the opportunity to make a cassette version to use.

Note: Your wafer version of the customized printer driver will be output to drive 0. You will also be afforded the opportunity to make a customized version of your driver software on cassette (should you desire to use the A&J Printer Driver while in the Spectrum Mode).

The basic program and code will auto load, and is write protected against accidental erasure.

USING THE PRINTER SOFTWARE

This package is designed to allow the user to use the LPRINT and LList functions of the computer with centronics compatible printers. It will also allow you to make a dot for pixel screen copy, a side by side copy in the same manner of two different screens stored anywhere in RAM, and a 2 dot by 2 dot matrix for each pixel copy, provided you have a dot matrix printer with graphic modes. You may also specify first line and last line to copy! The screens may be located anywhere in memory evenly divisible by 32. They may overlap, be the same or the first screen may be located above the second in memory. Single screen copy always copies screen one. The printer software is not relocatable with any ease, but the copy software is easy to relocate if necessary. A modification for TASWORD II is also included in this documentation for your convenience, to allow you to use it with the A&J interface.

INITIALIZING THE MASTER COPY

The Basic program "printer" will allow you to easily customize the printer driver to operate your printer by changing the values, if necessary, listed in the following table:

ADDRESS	VARIABLE		ADDRESS	VARIABLE	
61456	Page Length	(66)	61458	Line Width	(79)
61460	Formfeed Value	(0)	61462	Baseflag	(0)
61465	Number of Line Feeds	(1)	61474	Left Margin Spaces	(0)

Additionally, if your printer has graphic characters that you wish to use, you may assign up to 16 of them to the 8 shifted and 8 unshifted graphic characters available to you in the GRAPHICS mode on the 2068. You could assign the character number in your printer manual for a heart for example, to the graphics/shifted number 1 on your 2068 keyboard. You will be given the opportunity to set these up (currently they are set to give the - sign. The locations for these 16 start at 62109 and end at 62124.

GRAPHIC VARIABLES - SET UP

The Graphic Variable set up allows you to set up your printer to print out graphic characters. The first thing to determine is where for example if you do a screen copy, you will want to begin the screen copying at. Currently, this is set to Line 0, and you probably will want this to remain at this set value. Under program control, you can change this at will be poking 62698 with the desired line number.

The same holds true for the last line that you wish to copy. this is currently set to 21, but by poking 62699 with a smaller number, you can limit the amount of lines that will be copied.

Normal line feed value for most printers is 10, but if your printer feeds after printing automatically, you will want to use a zero for the line feed value -POKE 62701,0 will accomplish this.

The value for the left margin on a small screen copy is currently set to 56 (dots), this is adjustable and can be changed if you desire. The value is stored in a two byte address if you desire to change the value (Experienced programmers) by poking the low byte into 62702 and 62703. For inexperienced programmers, we suggest you use the A&J printer program to change this, or you may wish to inspect the printer program to see how it is done.

The maximum bytes is now set to 576, quite normal for many printers, but, if your printer is not capable of this, or is capable of better, you may set this what is desired (or necessary). Again, as above, this uses a two byte address - 62704 and 62705.

The normal screen on the 2068 is located at 16384, and for all purposes, we call this screen 1, with this printer software, a two screen area can be copied side by side. The location of screen two can be anywhere you locate it. The addresses for these screens are located at 62706 and 62707 (a two byte address of course) for screen 1, and, 62708 and 62709 for screen 2. Screen one is currently set to 16384, and screen two is set to 16416 (which is actually part of screen 1), and if after you have finished customizing your software, you do a side by side copy, you'll see how this works.

GRAPHIC BYTES

There are a maximum of nine bytes available for the set up. The first three numbers are for the amount of line feed and may need adjustment to prevent spaces or overlap between lines will zigzag on the printout. The last two are the bytes that set up the graphic mode. They must be the last two.

If you change one you must change them all. Maximum bytes must match the graphic mode. The low and high byte for the line are supplied by the program.